



MAT-8117US

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: M. Hoasi et al.

: Art Unit: 2821

Serial No.: 09/820,077

: Examiner:

Filed: March 28, 2001

:

FOR: DIVERSITY WIRELESS DEVICE

:

AND WIRELESS TERMINAL UNIT

:

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents

Washington, D.C. 20231

S I R :

Prior to examination, please amend the above-identified application as follows.

IN THE CLAIMS:

Please replace claim 1 with the following amended claim:

- 1 1. (As Amended) A diversity wireless device for providing diversity using a
2 plurality of antennas comprising:
3 a substrate;
4 at least one grounded antenna disposed on said substrate;
5 at least one ungrounded antenna disposed on said substrate and isolated
6 from said grounded antenna, whereby said grounded antenna and said ungrounded
7 antenna provide a diversity gain relative to signals received by said diversity
8 wireless device.

IN THE ABSTRACT:

Please replace the Abstract with the new Abstract attached hereto.

REMARKS

By this amendment, applicants have amended claim 1 and the abstract. It is applicants' contention that amended claim 1 and the abstract more clearly define and describe applicants' claimed invention. No new matter is added by the amendment to claim 1 and the abstract, because the amendments thereto are based on the application as originally filed.

Early consideration and allowance of all pending claims are respectfully requested.

Respectfully Submitted,

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DNC/lm/jam

Enclosure: Version With Markings Showing Changes Made
Amended Abstract

Dated: July 9, 2001

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The Assistant Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. 18-0350 of any fees associated with this communication.

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7/09/01

Daniel N. Calder

ABSTRACT

5 A diversity wireless device for use in a wireless terminal unit includes at least one grounded antenna and at least one ungrounded antenna in proximity to each other on a circuit board. By providing at least one ungrounded antenna and at least one grounded antenna, there is a low correlation between the antennas resulting in a high diversity gain. The high diversity gain as a result of these antennas is maintained even with downsizing of the diversity wireless device.

FOIA b 7 - DATED 09/26/04

VERSION WITH MARKINGS SHOWING CHANGES MADECLAIMS:

1. (As Amended) A diversity wireless device for providing diversity using a plurality of antennas comprising:

a substrate;

at least one grounded antenna disposed on said substrate;

at least one ungrounded antenna disposed on said substrate and isolated from said grounded antenna, whereby said grounded antenna and said ungrounded antenna provide a diversity gain relative to signals received by said diversity wireless device.

~~an antenna which is grounded (grounded antenna) and~~

~~an antenna which is not grounded (ungrounded antenna).~~

ABSTRACT:

~~The present invention aims to provide a diversity wireless device that can be downsized without reduction in diversity gains. Provision of at least one ungrounded antenna among a plurality of antennas in the device makes a lower correlation between the antennas, thus giving a high diversity gain.~~ A diversity wireless device for use in a wireless terminal unit includes at least one grounded antenna and at least one ungrounded antenna in proximity to each other on a circuit board. By providing at least one ungrounded antenna and at least one grounded antenna, there is a low correlation between the antennas resulting in a high diversity gain. The high diversity gain as a result of these antennas is maintained even with downsizing of the diversity wireless device.